

- T050510V1-T8Z-ZZ960
1. A method for providing quality of service to the edge of a network, the edge of the network including a plurality of access networks, the method comprising:
 - determining a user's presence in more than one of the plurality of access networks;
 - determining a specified QoS for the user;
 - 5 obtaining QoS available data related to the QoS available from the plurality of access networks in which the user is present, at least one access network being adapted to communicate with wireless devices; and
 - managing the edge of the network based at least in part on the specified QoS for the user and on the QoS available data.
 - 10 2. The method of claim 1, wherein managing the edge of the network comprises: in response to the QoS available data, directing a session for the user to an access network that is appropriate for the specified QoS.
 - 15 3. The method of claim 1, wherein managing the edge of the network comprises managing the QoS provided to the user.
 4. The method of claim 1, wherein the network comprises network resources and wherein managing the edge of the network comprises dynamically allocating network resources.
 - 20 5. The method of claim 1, wherein managing QoS comprises tracking user device movement among access networks during a user session.
 - 25 6. The method of claim 1, wherein the access networks are selected from the group of access networks consisting of WAN, WLAN, UMTS, Bluetooth, hiperLAN, WCDMA and CDMA networks.
 7. The method of claim 1, wherein the access networks include at least one of a
30 radio access network and a packet data serving node.

8. The method of claim 1, wherein the specified QoS includes parameters selected from the group of parameters consisting of rating, delay, jitter, packet loss, and bandwidth.

5 9. The method of claim 8, wherein a specified QoS for the user includes a specified mean value and standard deviation for QoS parameters.

10. A method for providing quality of service to the edge of a network, the edge of the network including a plurality of access networks, the method comprising:

- 10 determining a user's presence in more than one of the plurality of access networks;
receiving a request from the user for a specified QoS;
obtaining QoS available data related to the QoS available from the plurality of access networks in which the user is present, at least one access network being adapted to provide access to wireless devices; and
15 in response to the QoS available data, directing a session for the user to an access network that can meet the specified QoS.

11. The method of claim 10, wherein the method dynamically obtains QoS available data and dynamically directs a session.

20 12. The method of claim 10, wherein the network comprises network resources and wherein the method further comprises obtaining traffic data from the network resources and dynamically allocating network resources based at least in part on the traffic data.

25 13. The method of claim 10, wherein the method further comprises tracking user device movement among access networks during a user session.

14. The method of claim 10, wherein the access networks are selected from the group of access networks consisting of WAN, WLAN, UMTS, Bluetooth, hiperLAN,

30 WCDMA and CDMA networks.

15. The method of claim 10, wherein the access networks include at least one of a radio access network and a packet data serving node.

16. The method of claim 10, wherein the specified QoS includes parameters selected from the group of parameters consisting of rating, delay, jitter, packet loss, and bandwidth.

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17. The method of claim 16, wherein a specified QoS for the user includes a specified mean value and standard deviation for QoS parameters.

18. A system for providing quality of service to the edge of a network, the edge of
10 the network including a plurality of access networks, the system comprising:

a database operative to store data associated with access network resources;

a LMQB device in communication with the database, having an interface for communicating over a network, and operative to:

determine a user's presence in more than one of the plurality of access networks;

15 determine a specified QoS for the user;

obtain QoS available data related to the QoS available from the plurality of access networks in which the user is present, at least one access network being adapted to communicate with wireless devices; and

20 manage the edge of the network based at least in part on the specified QoS for the user and on the QoS available data.

19. The system of claim 18, wherein the interface includes a QoS API.

20. The system of claim 18, wherein the LMQB device comprises:

25 a RSVP module adapted to receive RSVP data from the interface and operative to reserve resources in accordance with the RSVP data.

21. The system of claim 18, wherein the LMQB device comprises:

a DiffSERV module adapted to receive DiffSERV data from the interface and
30 operative to classify data in accordance to the DiffSERV data.

22. The system of claim 18, wherein the LMQB device comprises:
a static negotiation module adapted to receive data associated with network resources from the database and operative to establish quality of service parameters for the duration of the mobile's data session.

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23. The system of claim 18, wherein the LMQB device comprises:
a dynamic negotiation module adapted to receive data associated with network resources from the database and to receive a request for a change of a specified QoS while a session is in progress, the dynamic negotiation module being operative to establish and
10 modify quality of service parameters dynamically during a mobile's data session.

24. The system of claim 18, wherein the LMQB device comprises:
a service level agreement (SLA) module adapted to receive a request from a user and
operative to obtain SLA data from the database related to the agreement between the user and
15 a service provider in response to the request.

25. The system of claim 18, wherein the LMQB device comprises:
a traffic monitor module adapted to communicate with the access networks and
operative to obtain the resource availability of the access networks and to route traffic based
20 at least in part on a user's presence and on service demand.

26. A wireless device adapted for communicating with an access network comprising:
means for receiving QoS selection data from a user; and
25 means for communicating the QoS selection data to an access network.

27. The wireless device of claim 26, wherein the receiving means comprises a selection menu means for providing a menu of QoS selections to a user.

30 28. The wireless device of claim 27, wherein the wireless device further comprises means for mapping a QoS selection data received from the selection menu means to QoS parameter data and for supplying the QoS parameter data to the means for communicating.

29. A memory for storing data for access by an application program being executed on a data processing system, the memory comprising:
access network records for storing data related to the resources available from a plurality of access networks; and
5 QoS parameter records for storing data related to QoS parameters obtained in connection with a user session, transmission of the user session occurring over at least one of the plurality of access networks.

30. A method for providing quality of service to the edge of a network, the edge of 10 the network including a plurality of access networks, the method comprising:
determining a user's presence in more than one of the plurality of access networks by using a LMQB to query a presence server causing the presence server to send a multicast message to appropriate network elements and to receive back from each appropriate network element an indication of whether the user is present in a particular access network;
15 determining a specified QoS for the user;
obtaining QoS available data related to the QoS available from the plurality of access networks in which the user is present by using the LMQB to send a multicast query message to identified network elements, at least one access network being adapted to communicate with wireless devices; and
20 in response to the QoS available data, directing a session for the user to an access network that can meet the specified QoS.

31. The method of claim 30, wherein the method dynamically obtains QoS available data and dynamically directs a session.
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32. The method of claim 30, wherein the network comprises network resources and wherein the method further comprises obtaining traffic data from the network resources and dynamically allocating network resources based at least in part on the traffic data.

30 33. The method of claim 30, wherein the method further comprises tracking user device movement among access networks during a user session.

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34. A system for providing quality of service to the edge of a network, the edge of the network including a plurality of access networks, the system comprising:
- a database operative to store data associated with access network resources;
 - a LMQB device in communication with the database, having an a QoS API interface
- 5 for communicating over a network, the LMQB device comprising
- means for determining a user's presence in more than one of the plurality of access networks;
 - means for determining a specified QoS for the user;
 - means for obtaining QoS available data related to the QoS available from the plurality
- 10 of access networks in which the user is present, at least one access network being adapted to communicate with wireless devices; and
- means for managing the edge of the network based at least in part on the specified QoS for the user and on the QoS available data.
- 15 35. The system of claim 34, wherein the LMQB device comprises:
- a RSVP module adapted to receive RSVP data from the interface and operative to reserve resources in accordance with the RSVP data.
36. The system of claim 34, wherein the LMQB device comprises:
- 20 a DiffSERV module adapted to receive DiffSERV data from the interface and operative to classify data in accordance to the DiffSERV data.
37. The system of claim 34, wherein the LMQB device comprises:
- a static negotiation module adapted to receive data associated with network resources
- 25 from the database and operative to establish quality of service parameters for the duration of the mobile's data session.
38. The system of claim 34, wherein the LMQB device comprises:
- a dynamic negotiation module adapted to receive data associated with network
- 30 resources from the database and to receive a request for a change of a specified QoS while a session is in progress, the dynamic negotiation module being operative to establish and modify quality of service parameters dynamically during a mobile's data session.

39. The system of claim 34, wherein the LMQB device comprises:
a service level agreement (SLA) module adapted to receive a request from a user and
operative to obtain SLA data from the database related to the agreement between the user and
a service provider in response to the request.

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40. The system of claim 34, wherein the LMQB device comprises:
a traffic monitor module adapted to communicate with the access networks and
operative to obtain the resource availability of the access networks and to route traffic based
at least in part on a user's presence and on service demand.

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